



## Lively data

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The Products and Services department in the Space Oceanography Division at CLS is in charge of diffusing and promoting altimetry and operational oceanography data. The department is thus involved in Aviso satellite altimetry project, in Mercator ocean operational forecasting system, and in the European Godae / Mersea ocean portal.

Aviso is the French service which distributes altimetry products since 1992. The Aviso LAS distributes several Ssalto/Duacs altimetry products such as delayed and near-real time sea level anomalies, absolute dynamic topography, absolute geostrophic velocities, gridded significant wave height and gridded wind speed modulus. These data are issued from a set of four satellites: GFO, Jason-1, Envisat, Topex/Poseidon. Merged products issued from the combination of the different satellites' data are also available.

Aiming to a standardisation and a common vision and management of all these ocean data, all these projects, led to the implementation of several Opendap/LAS Internet servers.

The Live Access Server (or LAS) is an online graphical interface designed to provide flexible access to geo-referenced scientific data. It can present distributed data sets as a unified virtual data base through the use of Opendap networking. Versatile and interactive, it can be used for plotting and retrieving gridded data. LAS enables the Web user to

- visualize data with on-the-fly graphics (plotting maps, but also longitude-time or along-time evolution at one point...)
- request custom subsets of variables in a choice of file formats (gif, ascii, NetCDF)
- compare (difference) variables from distributed locations
- retrieve statistical information about the data (min, max, average, variance...)

- access background reference material about the data (metadata) Ferret is the default visualization application used by LAS, though other applications (Matlab, IDL, GrADS, ...) can also be used, or directly on the Internet catalogue.

Aviso opened a LAS for its near-real time sea level anomaly and geostrophic velocity gridded data (Ssalto/Duacs) older than one month in April 2003. Several other datasets were added later.

-> <http://las.aviso.oceanobs.com>

-> <http://opendap.aviso.oceanobs.com>

Some of the possibilities of the tools, as well as how-to information will be highlighted, as they are in the "Lively data" section of Aviso website (see <http://www.aviso.oceanobs.com/html/donnees/las/>). Moreover, with a two-year experience we now have some feedback and analysis of how people -users, would-be users and students alike—are using this tool, some ideas for possible enhancements, etc.